```
       RAW SEQUENCE LISTING              DATE: 06/23/2000
       PATENT APPLICATION:   US/09/017,743C      TIME: 06:19:36

       Input Set : A:\018623-805.app
       Output Set: N:\CRF3\06222000\I017743C.raw
```

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JUL 12 2000

TECH CENTER 1600/2900

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            SEQUENCE LISTING
C--> 5 (1) GENERAL INFORMATION:
     7        (i) APPLICANT: Sette, Alessandro
     8                      Sidney, John
     9                      Southwood, Scott
C--> 11      (ii) TITLE OF INVENTION: HLA Binding Peptides and Their
     12                     Uses
     14    (iii) NUMBER OF SEQUENCES: 146
     16     (iv) CORRESPONDENCE ADDRESS:
     17          (A) ADDRESSEE: Townsend and Townsend and Crew LLP
     18          (B) STREET: Two Embarcadero Center, Eighth Floor
     19          (C) CITY: San Francisco
     20          (D) STATE: CA
     21          (E) COUNTRY: USA
     22          (F) ZIP: 94111-3834
     24      (v) COMPUTER READABLE FORM:
     25          (A) MEDIUM TYPE: Diskette
     26          (B) COMPUTER: IBM Compatible
     27          (C) OPERATING SYSTEM: DOS
     28          (D) SOFTWARE: FastSEQ for Windows Version 2.0
C--> 30     (vi) CURRENT APPLICATION DATA:
C--> 31          (A) APPLICATION NUMBER: US/09/017,743C
C--> 32          (B) FILING DATE: 03-Feb-1998
     33          (C) CLASSIFICATION:
     35    (vii) PRIOR APPLICATION DATA:
     36          (A) APPLICATION NUMBER: US 08/590,298
     37          (B) FILING DATE: 23-JAN-1996
     39   (viii) ATTORNEY/AGENT INFORMATION:
     40          (A) NAME: Parent, Annette S.
     41          (B) REGISTRATION NUMBER: 42,058
     42          (C) REFERENCE/DOCKET NUMBER: 018623-008050US
     44      (ix) TELECOMMUNICATION INFORMATION:
     45          (A) TELEPHONE: 415-576-0200
     46          (B) TELEFAX: 415-576-0300
     47          (C) TELEX:
     50 (2) INFORMATION FOR SEQ ID NO: 1:
     52        (i) SEQUENCE CHARACTERISTICS:
     53          (A) LENGTH: 8 amino acids
     54          (B) TYPE: amino acid
     55          (C) STRANDEDNESS: single
     56          (D) TOPOLOGY: linear
     58       (ii) MOLECULE TYPE: peptide
     60       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
     62  Val Pro Leu Gln Leu Pro Pro Leu
     63   1               5
     65 (2) INFORMATION FOR SEQ ID NO: 2:
     67        (i) SEQUENCE CHARACTERISTICS:
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68              (A) LENGTH: 8 amino acids
69              (B) TYPE: amino acid
70              (C) STRANDEDNESS: single
71              (D) TOPOLOGY: linear
73      (ii) MOLECULE TYPE: peptide
75      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
77  Ala Pro Thr Leu Trp Ala Arg Met
78   1              5
80  (2) INFORMATION FOR SEQ ID NO: 3:
82      (i) SEQUENCE CHARACTERISTICS:
83              (A) LENGTH: 8 amino acids
84              (B) TYPE: amino acid
85              (C) STRANDEDNESS: single
86              (D) TOPOLOGY: linear
88      (ii) MOLECULE TYPE: peptide
90      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
92  Ile Pro Phe Tyr Gly Lys Ala Ile
93   1              5
95  (2) INFORMATION FOR SEQ ID NO: 4:
97      (i) SEQUENCE CHARACTERISTICS:
98              (A) LENGTH: 8 amino acids
99              (B) TYPE: amino acid
100             (C) STRANDEDNESS: single
101             (D) TOPOLOGY: linear
103     (ii) MOLECULE TYPE: peptide
105     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
107  Ile Pro Leu Val Gly Ala Pro Leu
108   1              5
110  (2) INFORMATION FOR SEQ ID NO: 5:
112     (i) SEQUENCE CHARACTERISTICS:
113             (A) LENGTH: 8 amino acids
114             (B) TYPE: amino acid
115             (C) STRANDEDNESS: single
116             (D) TOPOLOGY: linear
118     (ii) MOLECULE TYPE: peptide
120     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
122  Lys Pro Ala Arg Leu Ile Val Phe
123   1              5
125  (2) INFORMATION FOR SEQ ID NO: 6:
127     (i) SEQUENCE CHARACTERISTICS:
128             (A) LENGTH: 8 amino acids
129             (B) TYPE: amino acid
130             (C) STRANDEDNESS: single
131             (D) TOPOLOGY: linear
133     (ii) MOLECULE TYPE: peptide
135     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
137  Leu Pro Gly Cys Ser Phe Ser Ile
138   1              5
140  (2) INFORMATION FOR SEQ ID NO: 7:
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RAW SEQUENCE LISTING   DATE: 06/23/2000
PATENT APPLICATION: US/09/017,743C   TIME: 06:19:36

Input Set : A:\018623-805.app
Output Set: N:\CRF3\06222000\I017743C.raw

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142      (i) SEQUENCE CHARACTERISTICS:
143          (A) LENGTH: 8 amino acids
144          (B) TYPE: amino acid
145          (C) STRANDEDNESS: single
146          (D) TOPOLOGY: linear
148     (ii) MOLECULE TYPE: peptide
150     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
152  Leu Pro Arg Arg Gly Pro Arg Leu
153   1               5
155 (2) INFORMATION FOR SEQ ID NO: 8:
157      (i) SEQUENCE CHARACTERISTICS:
158          (A) LENGTH: 8 amino acids
159          (B) TYPE: amino acid
160          (C) STRANDEDNESS: single
161          (D) TOPOLOGY: linear
163     (ii) MOLECULE TYPE: peptide
165     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
167  Leu Pro Tyr Ile Glu Gln Gly Met
168   1               5
170 (2) INFORMATION FOR SEQ ID NO: 9:
172      (i) SEQUENCE CHARACTERISTICS:
173          (A) LENGTH: 9 amino acids
174          (B) TYPE: amino acid
175          (C) STRANDEDNESS: single
176          (D) TOPOLOGY: linear
178     (ii) MOLECULE TYPE: peptide
180     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
182  Cys Pro Lys Val Ser Phe Glu Pro Ile
183   1               5
185 (2) INFORMATION FOR SEQ ID NO: 10:
187      (i) SEQUENCE CHARACTERISTICS:
188          (A) LENGTH: 9 amino acids
189          (B) TYPE: amino acid
190          (C) STRANDEDNESS: single
191          (D) TOPOLOGY: linear
193     (ii) MOLECULE TYPE: peptide
195     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
197  Ile Pro Ile His Tyr Cys Ala Pro Ala
198   1               5
200 (2) INFORMATION FOR SEQ ID NO: 11:
202      (i) SEQUENCE CHARACTERISTICS:
203          (A) LENGTH: 9 amino acids
204          (B) TYPE: amino acid
205          (C) STRANDEDNESS: single
206          (D) TOPOLOGY: linear
208     (ii) MOLECULE TYPE: peptide
210     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
212  His Pro Val His Ala Gly Pro Ile Ala
213   1               5
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215 (2) INFORMATION FOR SEQ ID NO: 12:
217      (i) SEQUENCE CHARACTERISTICS:
218             (A) LENGTH: 10 amino acids
219             (B) TYPE: amino acid
220             (C) STRANDEDNESS: single
221             (D) TOPOLOGY: linear
223     (ii) MOLECULE TYPE: peptide
225     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
227  His Pro Arg Ile Ser Ser Glu Val His Ile
228  1               5                   10
230 (2) INFORMATION FOR SEQ ID NO: 13:
232      (i) SEQUENCE CHARACTERISTICS:
233             (A) LENGTH: 10 amino acids
234             (B) TYPE: amino acid
235             (C) STRANDEDNESS: single
236             (D) TOPOLOGY: linear
238     (ii) MOLECULE TYPE: peptide
240     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
242  Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu
243  1               5                   10
245 (2) INFORMATION FOR SEQ ID NO: 14:
247      (i) SEQUENCE CHARACTERISTICS:
248             (A) LENGTH: 11 amino acids
249             (B) TYPE: amino acid
250             (C) STRANDEDNESS: single
251             (D) TOPOLOGY: linear
253     (ii) MOLECULE TYPE: peptide
255     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:
257  Ile Pro Tyr Asn Pro Gln Ser Gln Gly Val Val
258  1               5                   10
260 (2) INFORMATION FOR SEQ ID NO: 15:
262      (i) SEQUENCE CHARACTERISTICS:
263             (A) LENGTH: 11 amino acids
264             (B) TYPE: amino acid
265             (C) STRANDEDNESS: single
266             (D) TOPOLOGY: linear
268     (ii) MOLECULE TYPE: peptide
270     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:
272  Ala Pro Thr Leu Trp Ala Arg Met Ile Leu Met
273  1               5                   10
275 (2) INFORMATION FOR SEQ ID NO: 16:
277      (i) SEQUENCE CHARACTERISTICS:
278             (A) LENGTH: 9 amino acids
279             (B) TYPE: amino acid
280             (C) STRANDEDNESS: single
281             (D) TOPOLOGY: linear
283     (ii) MOLECULE TYPE: peptide
285     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:
287  Met Pro Ser Leu Thr Leu Ala Cys Leu
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288   1            5
290 (2) INFORMATION FOR SEQ ID NO: 17:
292      (i) SEQUENCE CHARACTERISTICS:
293            (A) LENGTH: 9 amino acids
294            (B) TYPE: amino acid
295            (C) STRANDEDNESS: single
296            (D) TOPOLOGY: linear
298      (ii) MOLECULE TYPE: peptide
300      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:
302 Val Pro His Val Ile Glu Glu Val Met
303   1            5
305 (2) INFORMATION FOR SEQ ID NO: 18:
307      (i) SEQUENCE CHARACTERISTICS:
308            (A) LENGTH: 10 amino acids
309            (B) TYPE: amino acid
310            (C) STRANDEDNESS: single
311            (D) TOPOLOGY: linear
313      (ii) MOLECULE TYPE: peptide
315      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:
317 Trp Pro Tyr Ile Ala Ser Arg Thr Ser Ile
318   1            5                 10
320 (2) INFORMATION FOR SEQ ID NO: 19:
322      (i) SEQUENCE CHARACTERISTICS:
323            (A) LENGTH: 9 amino acids
324            (B) TYPE: amino acid
325            (C) STRANDEDNESS: single
326            (D) TOPOLOGY: linear
328      (ii) MOLECULE TYPE: peptide
330      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:
332 Phe Pro Val Thr Pro Gln Val Pro Leu
333   1            5
335 (2) INFORMATION FOR SEQ ID NO: 20:
337      (i) SEQUENCE CHARACTERISTICS:
338            (A) LENGTH: 9 amino acids
339            (B) TYPE: amino acid
340            (C) STRANDEDNESS: single
341            (D) TOPOLOGY: linear
343      (ii) MOLECULE TYPE: peptide
345      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:
347 Phe Pro Val Arg Pro Gln Phe Pro Leu
348   1            5
350 (2) INFORMATION FOR SEQ ID NO: 21:
352      (i) SEQUENCE CHARACTERISTICS:
353            (A) LENGTH: 9 amino acids
354            (B) TYPE: amino acid
355            (C) STRANDEDNESS: single
356            (D) TOPOLOGY: linear
358      (ii) MOLECULE TYPE: peptide
360      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:
```

VERIFICATION SUMMARY   DATE: 06/23/2000
PATENT APPLICATION: US/09/017,743C   TIME: 06:19:37

Input Set : A:\018623-805.app
Output Set: N:\CRF3\06222000\I017743C.raw

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L:5    M:220 C: Keyword misspelled or invalid format, [(1) GENERAL INFORMATION:]
L:11   M:220 C: Keyword misspelled or invalid format, [(ii) TITLE OF INVENTION:]
L:30   M:220 C: Keyword misspelled or invalid format, [(vi) CURRENT APPLICATION DATA:]
L:31   M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:32   M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:1974 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:128
L:1996 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:129
L:2016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130
L:2036 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:131
L:2056 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:132
L:2076 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:133
L:2091 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:134
L:2106 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:135
L:2121 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:136
L:2136 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:137
L:2151 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:138
L:2173 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:139
L:2196 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:140
L:2265 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:141
L:2334 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:142
L:2393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:143
L:2469 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:144
L:2544 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:145
L:2616 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:146
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